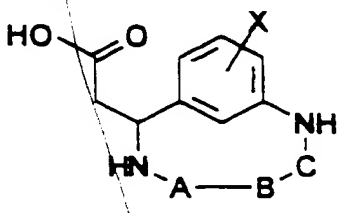
Patent Claims

1. Compounds of the formula I



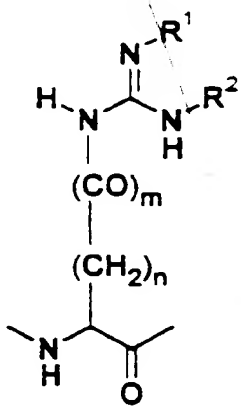
I

,

in which

A is Gly, Ala or NH-NH-CO,
where the amino acids mentioned can also be derivatized,

B is a radical of the formula II



II

,

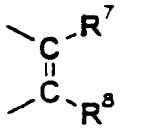
C is $-(CO)_p-(CH_2)_q-(CO)_r-$ or $-(CO)_p-CH=CH-(CO)_r-$,

m, p, r in each case independently of one another are 0 or 1,

n, q in each case independently of one another are 1, 2, 3 or 4,

R^1 and R^2 in each case independently of one another are H or alkyl,

R^1 and R^2 together are also



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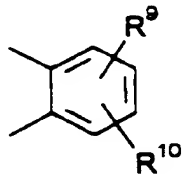


R^7, R^8, R^9,

R^{10} in each case independently of one another are H, alkyl, Ar, OR^6, Hal, NO_2, $NR^6R^{6'}$, $NHCOR^6$, CN, $NHSO_2R^6$, $COOR^6$ or COR^6,

X is H, Hal, alkyl or Ar,

Ar is phenyl which is unsubstituted or mono-, di- or trisubstituted by R^3, R^4 or R^5 or is unsubstituted naphthyl,

R^3, R^4, R^5 in each case independently of one another are R^6, OR^6, Hal, NO_2, $NR^6R^{6'}$, $NHCOR^6$, CN, $NHSO_2R^6$, $COOR^6$ or COR^6,

R^6, $R^{6'}$ in each case independently of one another are H, alkyl, phenyl or benzyl, and

Hal is F, Cl, Br or I,

and if there are radicals of optically active amino acids and amino acid derivatives, both the D and the L forms are included,

and their salts.

2. An enantiomer or a diastereomer of a compound of the formula according to Claim 1.

3. Compounds of the formula I according to Claim 1:

a) (8S,14S)-2-(8-(3-guanidinopropyl)-3,6,9,12-tetraoxo-2,7,10,13-tetraazabicyclo[13.3.1]nonadeca-16,18,19-trien-14-yl)acetic acid;

b) (9S,15S)-2-(9-(3-guanidinopropyl)-3,7,10,13-tetraoxo-2,8,11,14-tetraazabicyclo[14.3.1]eicosan-17,19,20-trien-15-yl)acetic acid;

c) (8S,14S)-(8-(3-guanidinopropyl)-18-methyl-3,6,9,12-tetraoxo-2,7,10,13-tetraazabicyclo[13.3.1]-nonadeca-1(18),15(19),16-trien-14-yl)acetic acid;

d) (6S,12S)-(6-(3-guanidinopropyl)-4,7,10-trioxo-2,5,8,11-tetraazabicyclo[11.3.1]heptadeca-1(17),13,15-trien-12-yl)acetic acid;

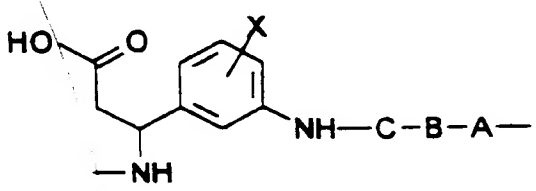
and their salts.

4. Process for the preparation of compounds of the formula I acccrding to Claim 1 and of their salts, characterized in that

(a) a compound of the formula III

H-Z-OH III

in which

Z is 

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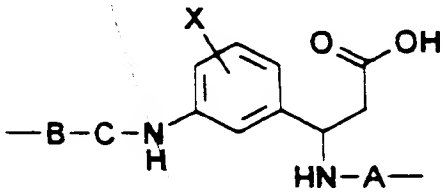

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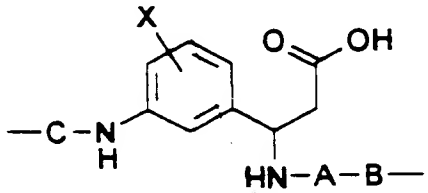

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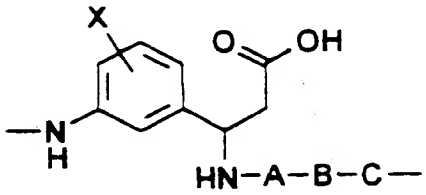

and X, A, B and C have the meanings indicated in Claim 1,

or a reactive derivative of a compound of the formula III is treated with a cyclizing agent,

or

b) a compound of the formula I is set free from one of its functional derivatives by treating with a solvolysing or hydrogenolysing agent,

and/or in that a basic or acidic compound of the formula I is converted into one of its salts by treating with an acid or base.

5. Process for the production of pharmaceutical preparations, characterized in that a compound of the formula I according to Claim 1 and/or one of its physiologically acceptable salts is brought into a

suitable dose form together with at least one solid, liquid or semi-liquid excipient or auxiliary.

6. Pharmaceutical preparation, characterized in that it contains at least one compound of the formula I according to Claim 1 and/or one of its physiologically acceptable salts.

7. Compounds of the formula I according to Claim 1 and their physiologically acceptable salts as integrin inhibitors for the control of diseases of the circulation, thromboses, cardiac infarct, coronary heart diseases, arteriosclerosis, apoplexy, angina pectoris, tumours, osteoporosis, inflammations, infections and restenosis after angioplasty.

8. Use of compounds of the formula I according to Claim 1 and/or their physiologically acceptable salts in pathological processes which are supported or propagated by angiogenesis.

9. Use of compounds of the formula I according to Claim 1 and/or their physiologically acceptable salts for the production of a medicament.

10. Use of compounds of the formula I according to Claim 1 and/or their physiologically acceptable salts in the control of illnesses.